CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 96-140

TO AMEND SITE CLEANUP REQUIREMENTS, ORDER NO. 92-106, FOR:

MONSANTO COMPANY, LAFAYETTE
HOLDING CORPORATION, AND
SPIEKER PROPERTIES

FOR THE PROPERTY LOCATED AT:

2710 LAFAYETTE STREET
SANTA CLARA, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region hereinafter called the Board), finds that:

1. Site and Regulatory History. Monsanto Company (Monsanto) owned the site from about 1950 to 1983; the eastern portion of the property was developed and used by Monsanto for the manufacture of plastics and resins. In 1968 Monsanto leased a parcel of the developed area, including a building on Walsh Avenue, to Hunter Technology Corporation, who manufactured printed circuit boards until 1983. The City of Santa Clara reportedly installed an electrical substation with three transformers on the Monsanto site in 1962 and operated it until it was removed by the City in 1984.

2. Monsanto discharged liquid wastes on a portion of the property from the mid-1960s to 1975, and buried solid waste in seven trenches elsewhere on the property. Monsanto also maintained one or more above-ground tank farms on the site while occupying the property. (An underground storage tank was discovered and removed in 1995.) Volatile organic compounds (VOCs), fuel hydrocarbons, and other chemicals/wastes including PCBs have been found on the site.

3. Monsanto commenced site investigations in 1981. The Board adopted Site Cleanup Requirements (SCR) in 1989 and amended in 1991, and revised these in 1992. The site is currently regulated under SCR 92-106, and Waste Discharge Requirements (WDR) 90-160 for the reinfiltration of treated groundwater. The PCB contamination appears to have been localized in shallow soil, and successfully remediated (removed) by Monsanto. VOC contamination in groundwater, predominantly trichloroethene (TCE), has been and is continuing to be addressed by Monsanto's groundwater remediation activities.

4. In 1983 Monsanto negotiated an exchange of the property. The property eventually was acquired by the CAMSI IV partnership in 1985. All manufacturing buildings, above-ground tanks and appurtenances were removed by this time. CAMSI IV failed and the Lafayette Holding Corporation was formed to negotiate sale of the property. The property was acquired by Spieker Properties in 1995 and re-developed into the Lafayette Industrial Park, and is presently occupied by a number of tenants.

5. Since the adoption of SCR Order 92-106, Monsanto has completed implementation of a final cleanup plan for specific parts of the property, and submitted a Five-Year Status Report and Effectiveness Evaluation. Preparation for site re-development by the current property owner, Spieker Properties, has necessitated the modification of the extraction and reinfiltration systems, redesign and relocation of the treatment system, and the abandonment of some wells and the installation of others.

6. Dischargers Named. Monsanto is considered to be the Discharger primarily responsible for site remediation because Monsanto occupied and used the site for manufacturing over a relatively long period of time and is known to have discharged wastes onto the property. Clifford B. Hunter/Hunter Technology et al were once named as Dischargers, but are not named herein because the Board concurs with Monsanto's "no further action" recommendation for the area formerly leased from Monsanto and occupied by Hunter/Hunter Technology (the "Metals Area").

7. The CAMSI IV business arrangement has been dissolved and CAMSI IV, once named a Discharger because of property ownership, is not so named herein. Lafayette Holding Corporation, the successor to CAMSI IV, is named as secondarily responsible, as is the current property owner, Spieker Properties. Should Monsanto not continue groundwater remediation, Spieker Properties and Lafayette Holding Corporation will be responsible for remediation activities. Spieker Properties has prepared the "deed restrictions" for the property, currently being reviewed by Board Legal Counsel.

8. Status Report and Effectiveness Evaluation. Monsanto submitted a Status Report and Effectiveness Evaluation for the property, dated August 31, 1994, as required by Board Order. This report describes final cleanup actions completed thus far and discusses final cleanup objectives and goals for other areas, and makes recommendations, such as:

   a. Further soil remediation in the former buried trenches area, former filter backwash area, and former above-ground tank area is not warranted or recommended by Monsanto. The Board agrees with the recommendation.

   b. Monsanto recommended that existing VOC concentrations in groundwater in the former buried trenches area be adopted as final cleanup objectives for this area. In 1995 Monsanto found that the concentration of TCE had declined to below its MCL in both monitoring wells in this area and was continuing to decline. Both monitoring wells have since been abandoned to allow for orderly re-development of the site. No further remediation is deemed necessary in this area.

   c. Monsanto recommended that no further remedial actions be implemented in the former filter backwash area and groundwater monitoring in this area be discontinued. The Board agrees with this recommendation; monitoring wells associated with this area have been properly abandoned.

   d. No further action is recommended by Monsanto in the "Metals Area" (area formerly occupied by Hunter/Hunter Technology). The Board agrees.

e. No further action appears warranted or is recommended by Monsanto in the "PCB Area". The Board agrees.

f. Groundwater quality and flow patterns in areas affected by TCE will continue to be monitored to assess the progress of remediation efforts. The major remaining concern to the Board is the extent and amounts of TCE concentrations being detected in groundwater, ranging from 320 to 1,200 ppb in the most contaminated part of the property.

g. The extraction/treatment/infiltration systems will continue to be operated. Alternate cleanup goals and objectives for groundwater remediation will be proposed by Monsanto if and when asymptotic levels of VOC contaminants are reached above MCLs. The Board will give due consideration to such proposal when made.

h. A recommendation was made by Monsanto to reduce the sampling frequency of certain monitoring wells from twice annually to once annually. The Board is not in favor of this recommendation. The sampling frequencies for all wells are specified in the attached Self-Monitoring Program.

i. Cleanup costs were not provided by Monsanto. The Board is requiring the submittal of a report addendum to include cleanup costs.

9. Groundwater Treatment System. The former groundwater treatment system was located within the "footprint" of a new building and therefore was dismantled and removed; after the new buildings were constructed, a new treatment system was installed within an enclosed secure area adjacent to new Building "C" and near the northeastern corner of the property.

10. Based on results of research and testing conducted by Monsanto while the property was being redeveloped, a new system was installed which consists of treatment by ozone and carbon. Monsanto reports that ozone removes (destroys) up to about 98% of the VOC contamination in the groundwater and carbon removes the remainder. This system is thought by Monsanto to be superior to the former treatment system which utilized UV lights, a settling tank, carbon, and a low-profile air stripper.

11. Groundwater Extraction System. The northern portion of the former extraction trench was also within the footprint of new construction. This portion was decommissioned and replaced by new piping installed in a trench outside the footprint of any proposed building. Three new extraction wells were installed into or adjacent to the remaining part of the existing extraction trench to enhance groundwater extraction.

12. Groundwater infiltration System. The lead-in pipe to the infiltration trench from the former treatment compound was removed and replaced with a relocated delivery pipe. The north-south trending infiltration trench was not impacted by construction and continues to be used.

13. Monitoring Well Network. A number of monitoring wells were properly abandoned in order to remove perceived obstructions to proposed construction, or because new construction would make the wells inaccessible for future monitoring; several new wells have been installed. Wells currently included in the groundwater monitoring program are identified in the Self-Monitoring Program of this Order.

14. Deed Restrictions. The Dischargers have prepared and submitted "deed restrictions" for the property and these are being reviewed by Board Legal Counsel.

15. CEQA. This action is an Order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

16. Cost Recovery. Pursuant to Section 13304 of the California Water Code the Dischargers are hereby notified that the Board is entitled to and may seek reimbursement for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by Board Order.

17. Notification. The Board has notified the Dischargers and interested agencies and persons of its intent to amend site cleanup requirements and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

18. Public Meeting. The Board, in public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that this Board's Order No. 92-106 is amended as follows:

1. The title of the Order is amended to read:

   MONSANTO COMPANY,
   LAFAYETTE HOLDING CORPORATION, AND
   SPIEKER PROPERTIES

2. A date is established for the completion of Provision C.3.h:

   h. TASK: ACTUAL AND PROJECTED COSTS OF REMEDIATION. Submit an addendum to the 1994 Status Report and Effectiveness Evaluation acceptable to the Executive Officer which consists of a report and discussion of costs incurred thus far in conducting work to investigate and remediate the site and achieve cleanup objectives and goals, and projected future costs.

      COMPLETION DATE: February 1, 1997

3. The following is added at the end of Provision C.7:

   7. Each report shall include an updated tabulation of pounds of chemicals (VOCs) removed from groundwater by remediation during the reporting period, and the accumulated total pounds removed from the initiation of site remediation to the end of the reporting period.

4. The following Provision is added as Provision C.18:

   18. The Dischargers shall be liable, pursuant to Section 13304 of the California Water Code, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by Board Order. If the site addressed by this Order is enrolled in a State board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to procedures established in that program. Any disputes raised by the Dischargers over the reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures of that program.

5. Part A of the Self-Monitoring Program (SMP) is modified slightly and Part B is revised. The complete SMP, including Part A (modified) and the revised Part B, is attached.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 16, 1996.

Loretta K. Barsamian
LORETTA K. BARSAMIAN
Executive Officer

Attachment: Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

MONSANTO COMPANY

FOR THE PROPERTY LOCATED AT 2710 LAFAYETTE STREET

SANTA CLARA, SANTA CLARA COUNTY

SITE CLEANUP REQUIREMENTS

ORDER NO. 96-140

CONSISTS OF

PART A

AND

PART B

PART A

A. General

1. Reporting responsibilities of waste Dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16.

2. The principal purposes of a self-monitoring program by a waste Discharger are the following:

   a. To document compliance with Site Cleanup Requirements and prohibitions established by the Board;

   b. To facilitate self-policing by the waste Discharger in the prevention and abatement of pollution arising from waste discharge;

   c. To develop or assist in the development of standards of performance, toxicity standards and other standards; and,

   d. To prepare water and wastewater quality inventories.

B. Sampling And Analytical Methods

1. Sample collection, storage, and analyses shall be performed according to the most recent version of Standard Methods for the Analysis of Wastewater, and Test Methods for Evaluating Solid Waste EPA Document SW-846, or other EPA approved methods and in accordance with an approved sampling and analysis plan.

2. Water and waste analysis (except total suspended solids) shall be performed by a laboratory approved for these analyses by the State Department of Health. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

3. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. Definition Of Terms

1. A grab sample is a discrete sample collected at any time.

2. Duly authorized representative may be either a named individual or any individual occupying a named position having responsibility for the overall operation of the regulated facility or activity, such as general partner in a partnership, sole proprietor in a sole proprietorship, the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. Authorization is made in writing by a principal executive officer.

D. Schedule Of Sampling, Analysis, And Observations

1. The Discharger is required to perform sampling, analysis, and observations according to the schedule specified in Part B.

E. Records To Be Maintained By The Discharger

1. Written reports shall be maintained by the Discharger for ground water monitoring and wastewater sampling, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

   a. Identity of sample and sample station number;

   b. Date and time of sampling;

   c. Method of composite sampling;

   d. Date and time that analyses are started and completed, and name of the personnel performing the analyses;

   e. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used. A reference to a specific section of a reference required in Part A Section B is satisfactory;

   f. Calculation of results;

g. Results of analyses, and detection limits for each analyses; and,

h. Chain of custody forms for each sample.

F. Reports To Be Filed With The Board

2. Groundwater monitoring results shall be filed quarterly. Written self-monitoring reports shall be filed no later than May 15 (for the period January through March); August 15 (for the period April through June); November 15 (for the period July through September); and February 15 (for the period October through December).

The reports shall be comprised of the following:

a. Letter of Transmittal - A letter transmitting the essential points in each self-monitoring report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations, such as, operation and/or facilities modifications. If the Discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct. The letter shall contain the following certification:

"I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

b. Each monitoring report shall include a compliance evaluation summary sheet. Until the Order's amended to specify ground water protection standards, the following shall apply and the compliance sheet shall contain:

i. The method and time of water level measurement, the type of pump used for purging, pump placement in the well, method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water; and,

ii. Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name of the person actually taking the samples, and any other observations; the chain of custody record.

c. A summary of the status of any remediation work performed during the reporting period. This shall be a brief and concise summary of the work initiated and completed as follows:

i. As interim corrective action measures; and,

ii. To define the extent and rate of migrations of waste constituents in the soil and ground water at the site.

d. The Discharger shall describe, in the quarterly or periodic report, the reasons for significant increases in a pollutant concentration at a well onsite. The description shall include the following:

i. The source of the increase;

ii. How the Discharger determined or will investigate the source of the increase; and,

iii. What source removal measures have been completed or will be proposed.

e. A map or aerial photograph showing observation and monitoring station locations, and plume contours for each chemical in each aquifer shall be included as part of the quarterly Self-Monitoring Report.

f. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board. The following information shall be provided:

   i. The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review; and,

   ii. In addition to the results of the analyses, laboratory quality control/quality assurance (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that is less than 80%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

g. By February 15 of each year the Discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:

   i. Tabular and graphical summaries of the monitoring data obtained during the previous year;

   ii. A discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the Site Cleanup Requirements; and,

   iii. A written summary of the ground water analyses indicating any change in the quality of the ground water.

G. In the event the Discharger violates of threatens to violate the conditions of the Site Cleanup Requirements and prohibitions or intends to experience a plant bypass or treatment unit bypass due to:

3. Maintenance work, power failures, or breakdown of waste treatment equipment, or;

4. Accidents caused by human error or negligence, or;

5. Other causes, such as acts of nature.

The Discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within 7 working days of the telephone notification. The written report shall include time and date, duration and estimated volume of waste bypassed, method used in estimating volume and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

In addition, the waste Discharger shall promptly accelerate his monitoring program to analyze the discharge at least once every day. Such daily analyses shall continue until such time as the effluent limits have been attained, until bypassing stops or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

Part B

A. Description Of Observation Stations And Schedule Of Observations

Numerous former monitoring wells have been abandoned and several new wells have been installed. Existing wells are shown on the attached Figure A. Wells with a "T" prefix are monitored by Technical Coatings Company; certain other wells on the figures are proposed for removal from the monitoring program and/or abandonment. The observation stations shall consist of the following identified groundwater monitoring wells:

19A, OW-2, OW-5N, OW-7, OW-8, OW-11N, OW-12R, OW-16, OW-20, OW-21, OW-22; and,

the following extraction wells:

EXT-A, EXT-B, EXT-C;

and any other groundwater wells, piezometers or sumps selected from those existing or added during the soil and groundwater characterization or the evaluation of remediation work.

B. Groundwater Sampling and Observations and Test Procedures.

1. *Sampling*. Groundwater sampling shall be conducted semi-annually for monitoring wells, within the months of June and December, and quarterly for extraction wells within the months of March, June, September, and December. Observations for all wells shall be conducted quarterly within the months of March, June, September, and December.

2. *Observations*. The groundwater monitoring well observations shall consist of the following:

   a. Water level elevation reported to the nearest 0.01 foot for both depth to water from the ground surface and the MSL elevation of the groundwater level (quarterly);

   b. Groundwater temperature measured at the time of sampling and reported in degrees Fahrenheit (semi-annually);

   c. Groundwater conductivity measured at the time of sampling as per Standard Methods 205 using potentiometric methodology (semi-annually);

   d. Groundwater pH measured at the time of sampling as per Standard Methods 423 using potentiometric methodology (semi-annually); and,

e. Groundwater turbidity measured at the time of sampling (semi-annually).

Observations for extraction wells, for purposes of this Order, shall consist only of measuring water levels, as in "a." above, and the pH, as in "d." above, on a quarterly schedule.

3. *Test procedures.* The test procedures for the groundwater samples from monitoring wells shall be as described herein:

a. Volatile organic compounds by EPA Method 8010, all identified monitoring wells, semi-annually.

b. Aromatics by EPA Method 8020, all identified monitoring wells, semi-annually.

c. Detection limits shall be adequate for determining compliance with cleanup standards.

Test procedures for groundwater samples from extraction wells shall consist of "a.", "b.", and "c." above, on a quarterly schedule.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring Program is as follows:

1. Developed in accordance with the procedures set forth in this Board's Resolution No. 73-16;

2. Effective on the date shown below; and,

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the Discharger.

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

October 16, 1996
Date Ordered

Attachment: Figure A

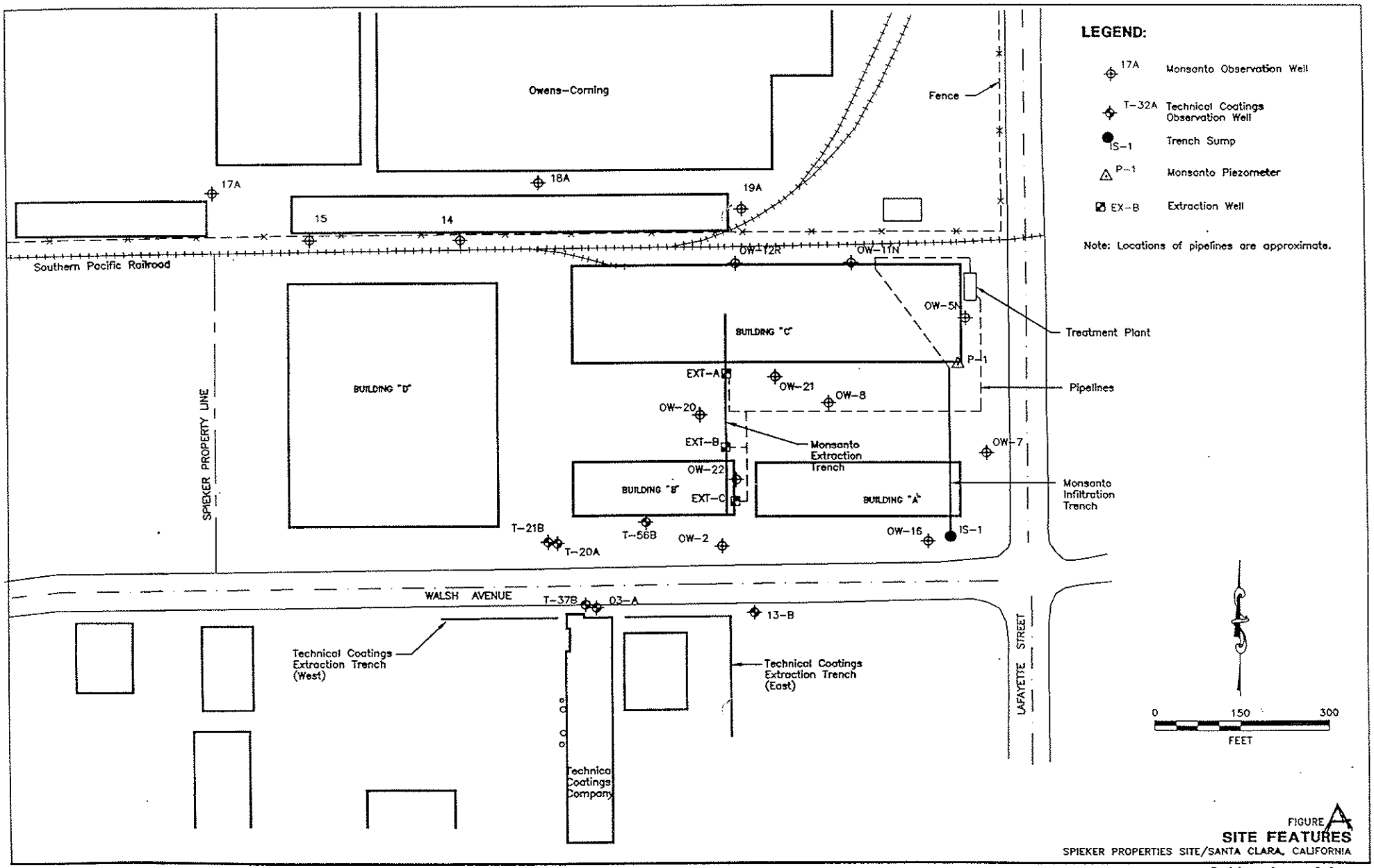

FIGURE A

SITE FEATURES

SPIEKER PROPERTIES SITE/SANTA CLARA, CALIFORNIA

DWG ID: \9537007\001\150\4613R1 DATE 8-12-96 13:33 DRAWN DVR

Golder Associates